

Faculty of Science

MNXG01, Planet Earth as a System - Temporal Perspectives and Sustainable Development, 3 credits

Planeten jorden som system - tidsperspektiv och hållbar utveckling, 3 högskolepoäng First Cycle / Grundnivå

Details of approval

The syllabus was approved by Study programmes board, Faculty of Science on 2022-04-27 to be valid from 2022-04-27, autumn semester 2022.

General Information

This is an elective first cycle course. The course is an interdisciplinary course at the Faculty of Natural Sciences and is open to students from all faculties.

Language of instruction: Swedish

Main field of studies

Depth of study relative to the degree requirements G1N, First cycle, has only upper-secondary level entry requirements

Learning outcomes

The overarching aim of the course is that the student should acquire basic knowledge in geology to be able to understand Planet Earth as a system and the limitations of the planet from a scientific perspective.

Knowledge and understanding

On completion of the course, the students shall be able to:

- account for the fundamentals of the age, structure and composition of Earth and for different geological resources, such as ores, minerals, utility stone materials and drinking water.
- account for the fundamentals of Earth's climate history and climate variations at different time scales
- at a general level account for the processes that cause large-scale changes in climate and sea level, ice age cycles and the formation of different types of

Quaternary deposits and landforms

- at a general level account for the development of life, particularly in relation to Earth's climate history and abrupt climate perturbations
- account for the fundamentals of the development of the marine environment
- account for the fundamentals of human impact on the environment from the Stone Age to the present

Competence and skills

On completion of the course, the students shall be able to:

- search, collect, and integrate knowledge and critically discuss geological phenomena, relationships and events to understand Planet Earth as a system
- identify and formulate problems related to geological resources
- account for and discuss Planet Earth as a system from a resource and environmental perspective

Judgement and approach

On completion of the course, the students shall be able to:

- critically discuss questions related to Planet Earth as a system from scientific, societal and ethical perspectives
- discuss and evaluate how use of geological resources influences our environment and our society
- provide arguments for the importance of geological knowledge for our possibilities to achieve sustainable development at present and in the future

Course content

The course includes the following components:

- The composition, age and long-term development of Planet Earth
- Earth's climate history
- The development of life and connections to climate variations
- Glacial processes, deposits and environments
- The development of the sea and the marine environment
- Geological resources (geosystem services) connected to bedrock and glacial landscapes
- Human impact on the environment at different time scales

Course design

The teaching consists of lectures, exercises, seminars and project work. Participation in exercises, seminars and project work as well as associated components is compulsory.

The course is offered as a distance learning course using an online learning platform and digital tools. Students are required to participate under these conditions, and to have access to a computer with an Internet connection as well as functioning speakers, microphone and web camera. The department will provide information about the technical requirements.

Assessment

Examination takes place continuously during the course through oral presentations and through compulsory components.

Students who do not pass the regular exam will have an additional opportunity to resit the exam soon thereafter.

The examiner, in consultation with Disability Support Services, may deviate from the regular form of examination in order to provide a permanently disabled student with a form of examination equivalent to that of a student without a disability.

Subcourses that are part of this course can be found in an appendix at the end of this document.

Grades

Marking scale: Fail, Pass.

For a grade of Pass on the whole course, passed oral presentations and passed compulsory components are required.

Entry requirements

General requirements for university studies in Sweden

Further information

The course cannot be included in a Higher Education Diploma with geology as the main field of study.

The course is offered at the Department of Geology, Lund University.

Subcourses in MNXG01, Planet Earth as a System - Temporal Perspectives and Sustainable Development

Applies from H22

2201 Oral presentations, 3,0 hp Grading scale: Fail, Pass